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ABSTRACT

This biennial conference, attracted approximately 300 environmental educators from Minnesota. Included in this document are: (1) the purpose, the rationale, and the overview of the conference; (2) the state legislature perspective highlighting policies and finances; (3) the state agencies' perspective focusing on entitlements; (4) a summary of reactions from participants to the legislative and agency proposals for implementation; (5) a summary of the presentation from the post-secondary panel; (6) a summary of the panel presentation on specifications from the National Environmental Education Act (H.R. 3684); (7) the common priority of needs of environmental educators in tabular form; (8) a summary of perceived regional priorities; and (9) appendices which contain a detailed annotation of the priorities, goals, and objectives for elementary schools, secondary schools, post-secondary schools, nature learning centers, community outreach programs, local government agencies, and state/federal agencies, as well as contact information for regional representatives from these diverse organizations. (JJK)

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ENVIRONMENTAL EDUCATION

CONFERENCE

SUMMARY

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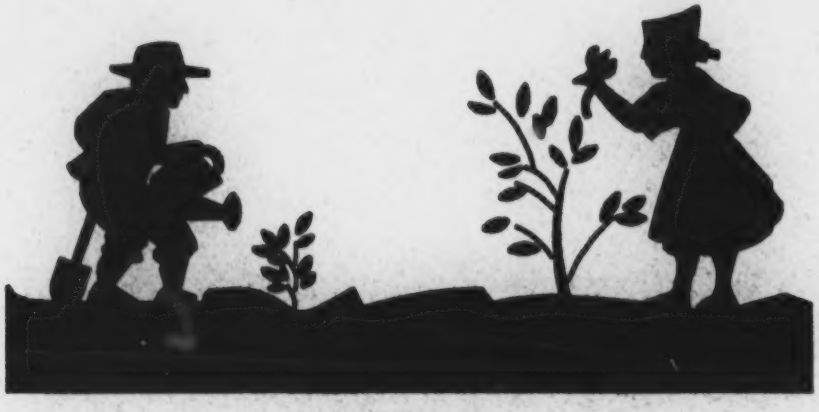

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Senator Gene Merriam
Representative Ken Nelson
Representative Phyllis Kahn
Lani Kawamura, Commissioner, State Planning Agency
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Central - Mike Link
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1990 ENVIRONMENTAL EDUCATION CONFERENCE
SUMMARY

"When the tide rises all the ships come up," the saying goes. In 1990, the tide rose for environmental education. In April, the 20th anniversary of Earth Day brought unprecedented education demands and attempts to respond by the education system, the media and public and private environmental groups. Nationally, the Environmental Education Act was signed by President Bush on November 16. Minnesota and many other states adopted environmental education legislation. Minnesota's Environmental Education Act called for a biennial conference of all environmental educators which was held on October 26 and 27, 1990 at the Airport Hilton Hotel in Bloomington, Minnesota.

CONFERENCE OVERVIEW

Approximately 300 environmental educators attended the conference. The Conference was co-sponsored by the State Planning Agency's Office of Environmental Education and Environmental Quality Board; and, the Minnesota Department of Education. Goals for the conference participants were:

1. to know and understand the Minnesota Environmental Education Act;
2. to ascertain needs, set priorities and goals and identify future issues as called for in the Act;
3. to initiate a networking/communication system.

Legislative and Agency Perspective

Attendees were informed of the course and direction for environmental education established by the Minnesota Legislature. Senator Gene Merriam and Representatives Ken Nelson and Phyllis Kahn explained legislative intent and expectations. Commissioner Lani Kawamura, State Planning Agency and Assistant Commissioner Mae Gaskins, MN Department of Education, described their respective agency's strategy for implementing the responsibilities assigned in the Environmental Education Act. Conference participants reacted to the Environmental Education Act by giving advice on implementation and identifying concerns and future issues.

Post-Secondary Perspectives

A panel of post-secondary educators described the role of higher institutions of learning in environmental education. Non-traditional roles and cooperative, coordinative mechanisms were proposed.

Implementing the Environmental Education Act

Conference participants spent most of the conference discussing ways for all environmental education "ships" to arrive at a common destination -- environmentally literate Minnesotans. To chart the course, they used the seven goals for environmental education and the structures and processes contained in the Environmental Education Act (EE Act).

Participants worked. The working groups were: Elementary, Secondary, Post-secondary, Environmental Education Centers (Nature/Residential), Informal/Community, State/Federal Government, and Local Government. Each group assessed its needs, selected priorities, and developed long-range goal statements and biennial objectives for its priorities.

Regional Perspectives

Each group selected a person(s) to represent the group in each region. Regions were based on the Education Cooperative Services Units (ECSU) which are designated in the EE Act. Two regional sessions were held to get acquainted and begin organizing, networking and communicating.

LEGISLATIVE PERSPECTIVE

The EE Act sets the state's policy and framework for EE and includes:

- A commitment to lifelong environmental education;
- Seven goals for content and direction of programs ranging from ecological facts to stewardship behavior;
- Integrated, interdisciplinary K-12 EE;
- Coordinative structures and processes:

  - An Advisory Board of citizens and environmental and education agencies
  - A biennial conference of all EE educators
  - A continuing planning process
  - Integrated, statewide plan
  - Regional resource centers

- Assignment of responsibilities to state agencies:

  - Department of Education to K-12 EE, integrated, interdisciplinary curriculum and teacher in-services.
  - State Planning Agency to informal EE and to coordination between the informal, K-12, and post-secondary,
  - Education Cooperative Service Units (ECSU) to K-12 EE in-service education of teachers at the regional level.

Legislative Financial Support of EE

Due to revenue shortfalls, funds were not appropriated to implement the EE Act for Fiscal Year 1991. However, the Legislative Commission on Minnesota Resources (LCMR) has recommended funding for EE proposals totalling almost 3 million dollars beginning in July, 1991. Several of the recommended proposals are directly related to the EE Act:

- Developing a state plan,
- Integrated, interdisciplinary K-12 curriculum model development and testing;
- Analysis and recommendations on the EE role of nature centers and environmental learning centers; and
- Initiation of Community Education EE role.

Senator Gene Merriam: "We need to know where we <u>are</u> going, where we <u>should</u> go and <u>how</u> to get there."

Senator Gene Merriam, Chief Senate Author of the EE Act, briefly reviewed events which led to the 1990 EE Act. He cited the legislative intent to create a framework of common goals and a structure and process to coordinate and plan lifelong environmental education in Minnesota. A conscious decision was made to proceed with the EE Act despite the 1990 legislature's inability to appropriate implementation funds.

Senator Merriam is a member of the Legislative Commission on Minnesota Resources (LCMR) which recommends funding for natural resource projects. The LCMR also recommends on allocations of the Environmental Trust Fund. The LCMR and Environmental Trust Fund Citizen's Committee see environmental education as a key ingredient in addressing environmental issues.

The LCMR recommended funding for a coordinated EE planning effort in the next biennium. He stated, "We need to know where we <u>are</u> going, where we <u>should</u> go and <u>how</u> to get there in environmental education.

Senator Merriam expressed his appreciation to the large number of conference attendees for participating in the process established in the 1990 Act.

Representative Ken Nelson: "A Paradigm Shift."

Representative Ken Nelson, Chief Author in the House of Representatives, likened environmental education to a paradigm shift. With environmental education, perceptions/patterns of how one sees life change. He stated, "Many accidents can be avoided if we shift our paradigm."

Environmental education requires a dual approach of citizens and systems. In Minnesota, two systems work in alignment:
- Government -- which needs constant redesign, and
- Citizens -- which are untapped potential.

Both must be mobilized to meet the common, generic goals in the EE Act. Environmental decisions are made in many ways, everyday, by everyone. Systems cannot orchestrate all environmental decisions. Citizens can – if they are in tune with the environment and future.

Woven into the legislation are requirements for government agencies and departments to work together. Opportunities are provided to form partnerships with citizens and their systems. Two legislative directives are extremely important:
- The use of the outcome-based education process to infuse environmental learnings into all disciplines, and
- the linkage of the post-secondary system to the K-12 process and to informal, lifelong education.

Representative Nelson noted the international dimension of environmental education and stated that education about the environment becomes a bridge to other countries.

Representative Nelson stated that conferees are the first to begin shaping the generic goals in the Act into environmental education for the future. He thanked them for participating.

Representative Phyllis Kahn: "Effective environmental education must come from inside the K-12 system."

Representative Phyllis Kahn, Chair, LCMR. The 1990 Act changed the states structure for environmental education and assigned the MDE responsibility for K-12 environmental education and in-servicing teachers. She stated that effective environmental education must come from inside the K-12 system through the education decision-making agency, MDE. Successful environmental education projects provide hands-on activities such as river clean-ups, park patrols, etc. Children are stimulated by such activities.

The budget situation is bad. A new source of funds is the Environmental Trust Fund (ETF). Environmental education is the third priority of the LCMR and the first priority of the Citizens Advisory Committee on the ETF.

The LCMR received approximately 90 environmental education proposals totalling $27 million last year. (The funds available for all natural resource projects totalled $27 million.) The LCMR recommended $3.5 million for education. The recommendations will be acted upon in the coming session.

Among the LCMR recommendations are the statewide planning effort, studies of the nature center system, development and testing of model, integrated, interdisciplinary K-12 curriculum, community education, urban environmental education projects for special, underserved populations, and etc.

Representative Kahn is proud of the Urban Rangers, handicapped education and minority youth project providing education and hopefully leading to environmental careers. Urban and special groups have received little attention in the past.

Representative Kahn stated that environmental education can be the first step to choosing careers in science and technology. Hands-on environmental activities can inspire and motivate children to want to learn difficult subjects. Such secondary benefits of environmental education are very important to the state.

Conference attendees will begin to define future programs. Funding is the big question. Identifying sources of continual funding, integrated into state's budget is most important to the future of environmental education.

State Planning Agency: Lani Kawamura, Commissioner

The 1990 EE Act joins together two of Minnesota's most precious values -- a belief in education and a respect for the environment. The State Planning Agency (SPA) is charged with establishing and directing the new Office of Environmental Education created by the 1990 Environmental Education Act. Priorities established by SPA for this year include:

- Establishing of a 17 member Environmental Education Advisory Board, composed of 9 state agency commissioners representing environmental and education agencies and 8 citizens -- one from each Congressional District.
- Establishing of a continuing planning process for environmental education.
- Initiating an integrated state environmental education planning effort.
- Proposing and reviewing environmental education legislation.
- Holding an environmental education conference to determine needs, set priorities and goals, and identify future issues (this conference is the first).
- Developing coordination and communication processes between environmental educators.
- Establishing and maintaining communication links between the multitude of environmental education delivery systems, and
- Encouraging all environmental education programs to strive for achievement of the environmental education goals and the Minnesota Department of Education's "Learner Outcomes."

This conference has been designed to give you the opportunity to tell us how to proceed with implementing the new law. The Office of Environmental Education will be concentrating on establishing a process for the development of the state environmental education plan through an LCMR grant. Your ideas regarding the continuing planning process and the state environmental education plan that will come out of that process are particularly sought.

The LCMR's financial support gives life and momentum to the new Environmental Education Act and will provide the financial bridge between the policy language of the new law and the establishment of long-term general fund support of environmental education.

A theme that is central to the new Act and implicit in the organization of the new office and the conduct of its affairs is coordination and participation. The key to providing an effective system of environmental education that reaches every Minnesotan is coordination of the many existing and needed environmental education delivery systems. The new office will be organized and operated to assure that these varied efforts are mutually supportive.

The new Environmental Education Act was created and passed because of participation and involvement of hundreds of persons. All of the participation and involvement was necessary to bring us to this day. In particular, citizen volunteers and staff of the Minnesota Environmental Education Board had a major impact on the establishment and content of the new environmental education law. They worked countless hours to generate support for the environmental education initiative in the Legislature. We owe them a debt of gratitude.

The same Board participation and involvement will be required to implement the mandates of the new Act. The tasks confronting the Office of Environmental Education require combining the best of the old with the new. This demands your involvement. Together we can achieve environmental literacy for all in Minnesota.

Minnesota Department of Education: Mae Gaskins, Assistant Commissioner

The Minnesota Department of Education (MDE) has four major roles assigned in the Act:

- Statewide implementation of the Act's seven environmental education program goals for students and other citizens of Minnesota.
- Department of Education assistance in establishing environmental education programs in all public elementary and secondary schools:
- The assurance that environmental education programs are interdisciplinary, integrated into the curriculum, and outcome based; and
- Assuring that environmental education programs are implemented through the Department of Education's learner outcome, assessment and feedback, and instructional processes.

MDE will also assist school districts, education districts, and other education organizations develop environmental education policies that maximize teacher in-service programs through the ECSU regional system.

MDE will develop curriculum integration models for a learner outcome based environmental education program. The models will include seven fundamental components ranging from goal identification to student environmental learning assessment. School district research and development sites will also be identified to demonstrate how education outcomes can be integrated into a comprehensive education program.

Most important, the Minnesota Department of Education is responsible for teacher in-service in environmental education. MDE will submit a biennial report to the legislature and governor. This report will:

- Describe the progress of environmental education learner outcome development and implementation in the public elementary and secondary school;
- Describe in-service involvement and assistance at the state and local level;
- Evaluate the efforts of the research and development sites to implement integrated environmental learner outcome based education; and
- Contain an implementation plan to assist school districts in the establishment of an environmental education program in all public elementary and secondary schools.

These major responsibilities will require additional funding support if we are to successfully carry out our specific obligations in the E.E. Act. Where will this money come from? . . . One potential source is the Environment Trust Fund. Five organizations submitted a joint proposal, and have been recommended for funding by the 1991 legislature. We are very pleased to be involved in this initiative, as well as, providing liaison services to five other LCMR recommended environmental education programs in the next biennium.

As we move forward, many of you will be asked to assist us by suggesting viable curriculum models, pre- and in-service options, and potential research and development sites. It's no secret that our success in carrying out the intent of the E.E. Act to its full potential rests largely on our collective ability to work together. All of us are stakeholders in this unique environmental education initiative. We welcome and truly need your support and involvement.

REACTION TO LEGISLATION AND AGENCY IMPLEMENTATION

POSITIVE REACTION

Conference participants welcomed the vital legislative lead taken with Minnesota's Environmental Education Act. The legislation recognizes the importance of environmental education and that the environment is a permanent aspect of our society and culture. The EE Act provides a succinct, flexible framework which allows the linking of formal and informal education opportunities and freedom at the delivery level of EE.

The Act is comprehensive and inclusive through its:

- focus on lifelong education;
- establishment of obtainable, practical, broad-based common goals for all environmental education programs;
- geographical, statewide emphasis with regional integration of differing groups which maximizes local opportunities for outreach with statewide results;
- interdisciplinary, outcome-based approach which provides the means to integrate EE into all aspects of life.

The Act provides a framework for better communication and cooperation. It institutionalizes cooperation and coordination between agencies, levels of government, private and public groups and individuals. The structures and processes contained in the Act provide coordination opportunities for educator networking -- from the Advisory Board members to the grassroots.

In addition, the structure provides coordination possibilities with national and international EE, as well as dealing with the cross concern of environmental issues -- soil, air, water, etc. The coordinated, long-range planning process was also welcomed.

Conferees reacted extremely favorably to the Acts's provision of:
- K-12, interdisciplinary, integrated curriculum guidance, and,
- the establishment of regional resource centers, (which sparked considerable discussion on whether these were meant to be "physical centers" [e.g. buildings and people] or confederations of EE efforts loosely bound in coordinated and cooperative programming).

CONCERNS and FUTURE EE ISSUES

Conferees also identified their concerns with the EE Act and the agency implementation plans. The most often cited, major concerns and advice given summarized below.

FINANCING:

The lack of financing was the major concern. An adequate, stable, long-term financial commitment is needed. Competition for insufficient funding jeopardizes programs and undermines cooperation. A long-range financial plan is needed. Fund educators (not administrators), citizen groups, and non-school sites also. Soliciting private/corporate support was advised. Strengthen EE Act by changing "mays" to "shalls" in Act and fund.

QUALIFIED TEACHERS AND EE EDUCATORS:

Legislate requirements for teacher education. Develop qualifications for teacher trainers and environmental educators.

POST-SECONDARY EE:
The role of post-secondary system needs development. EE should be included in colleges, universities and other post-secondary curricula and integrated into disciplines other than science, e.g., humanities.

Develop pre-service and in-service teacher EE programs.

AWARENESS/ACCESS TO INFORMATION, MATERIALS, RESOURCES, PROGRAMS:
Develop databases of existing curriculum, materials, resources, and grants. EE resource library or system which provides information where resources can be found, and access to equipment to access and add to databases is needed to eliminate fragmentation and duplication of resources.

IMPLEMENTING CURRICULUM INTEGRATION REQUIREMENTS:
Coordinate EE with other education initiatives. Balance "seat learning" and hands-on. Information is needed about how to: integrate and deliver EE, recognize kids interest, translate theory into practice, identify appropriate topics at appropriate level, and evaluate programs.

RESEARCH:
EE programs should be research-based. How to ensure that Minnesota EE programs are based on research is a concern.

BALANCED EE EMPHASIS – FORMAL/INFORMAL, GRASSROOTS/STATE, CLASSROOM/HANDS-ON, URBAN/RURAL:
Act is too top heavy -- need more teachers and a naturalist on Advisory Board and ways for grassroots input. Grassroots focus is missing. Need integrated community EE; accessible inner city opportunities; naturalists in city parks; and to include minorities and special populations.

INFRASTRUCTURE TO SUPPORT EE ACT:
Need communication methods between educators; accessible databases; credible sources of information identified; and educators to researchers link established.

INFORMAL EE:
Adult EE for school administrators, school boards and community leaders is greatest need. Assess informal, non-agency programs for model programs.

UTILIZING EXISTING RESOURCES:
Use existing strengths to avoid redundancy. Avoid duplicating existing nature centers and their functions. Better marketing of existing EE resources and outreach to media are concerns.

REGIONAL RESOURCES CENTERS:
Need is great. Emphasize outreach for effective EE.

INSTITUTIONS AS ROLE MODELS FOR EE:
Legislature, agencies, post-secondary institutions and schools should be EE role models for environmental policy and issues.

ENVIRONMENTAL ETHICS:
Lack of incentives for behavior change.

ISSUES:
Make energy a permanent part of EE.

POST-SECONDARY PERSPECTIVE
Panel Presentation
Summary

Moderator: Dr. Duane A. Dahlberg, Concordia College, Moorhead

Panel: Dr. Ray A Nelson, Bemidji State University
Dr. Robert Holtz, Concordia College, St. Paul
Robert Baker, Bemidji State University

Dr. Dahlberg:

The post secondary community appreciates the formal commitment to EE by the legislature and state agencies. The conference goal for the post-secondary group is to develop a more inclusive EE program to carry out the goals of the Act.

At a 1989 meeting for post-secondary EE educators, a clear message was stated: "the post-secondary institution must take a leadership role in the state in EE. " A steering committee was established and developed a proposed plan which has been distributed to you. Steering committee members are:

Dahlberg, Nelson, Holtz, and Baker (above)
Janice Batcheller, Worthington Community College
John Tester, University of Minnesota
Tom Bowman, U of M at Duluth.

Post-secondary teachers have been teaching about the environment and promoting global sustainability. The educators involved in EE (some since before the first Earth Day) believe that EE requires a multidisciplinary approach. This can best be accomplished by encouraging environmental concepts to be a part of all course work in post-secondary institutions. We recognize the need for attitude change and new paradigms. It is important that the "spirit of cooperation" which brought us here today guide us to develop EE programs which will promote the concepts of global sustainability.

Post-secondary institutions need to set examples (how energy is used, natural resource use, handling waste). Post-secondary institutions offer a large source of information and expertise relevant to environmental issues. They can provide multidisciplinary teams to work on environmental problems from global to local issues. These teams can apply in the real world the knowledge learned in the educational system.

The post-secondary steering committee is anxious to be involved and to participate in the implementation of the Act.

Responding to a question concerning finance/money, Dr. Dahlberg gave his personal position on funding for EE: the environmental movement is mobilization of people to change attitudes, change directions and take action.

Dr. Ray A. Nelson:

Nelson first addressed the question of money/funding:
He has recently attended three meetings where legislators have stated there is no more money. He suggested that many people (himself included) are willing to pay more taxes to get the job done. He stated, "Quite frankly, I'm tired of short-term, inexpensive, ego-logical solutions. I'm ready for some long-term, expensive, eco-logical solutions."

Post Secondary Issues:

The post-secondary system has frustrations. Four years ago the Elementary Education Rule changed -- first time in 65 years. The rule stated that teachers had to teach EE. However, there was no higher education system established for teachers to be trained. Legislators have been asked to remedy this situation.

There is no rule for secondary students and no secondary teacher training. The post-secondary system is asking for support from the agencies and legislature. This is an important problem and should receive attention.

Dr. Robert Holtz:

A key mistake was not involving higher education in development of the Act. For example, Wisconsin's EE Act:
- states that EE must be taught,
- requires a manual to help teach EE,
- requires that higher education institutions graduate people who are educated/trained to teach EE.

Minnesota K-12 teachers have nowhere to turn for assistance. Legislation is needed, or individual institutions will develop their own EE requirements. A massive in-service for 40,000 existing teachers is needed. An occasional workshop is not enough education for our teachers. Adequate teacher training will require a heavy financial commitment.

Robert Baker:

Post-secondary education should include all types of institutions -- technical to universities. A strong knowledge base is needed for Minnesota teachers. People are reluctant and uncomfortable teaching what they don't know. Teachers must become comfortable through pre-service preparation or in-service. They have to be able to understand issues in order to teach young people. This requires a strong knowledge base.

EE programs need to be integrated and to permeate the total educational process. We must develop such programs and introduce throughout the curriculum.

Post-secondary education also has a responsibility to community education. Cooperation with other educators and working together at sites such as state parks, nature centers and ELCs is necessary. Otherwise, redundancy is the product.

Post-secondary has a tremendous EE responsibility, but also has tremendous resources to get the job done.

NATIONAL ENVIRONMENTAL EDUCATION
Panel Presentation

Moderator: Dr. C. Edward Buchwald

Panel: Suzanne Kircos, United States EPA, Region 5, Chicago, Illinois, presenting information on the National Environmental Education Act and EPA

Janice Batcheller, Worthington Community College, presenting the National Alliance for Environmental Education (NAEE)

John Miller, MDE, presenting North American Association for Environmental Educators (NAAEE)

Suzanne Kircos:

The National Environmental Education Act (NEEA) replaces the 1970 EE Act. It establishes an Office of Environmental Education in the U.S. EPA, allots funds for grants to local and state school systems, colleges and universities, non-profit organizations and state environmental and education agencies. It also allots an annual grant for training at an education or research institution, provides college level internships at several environmental agencies, and develops an EE award system. The Act establishes an advisory group made up of professional and agency experts.

Postscript: The National EE Act was signed by President Bush on November 16, 1990 and goes into effect on October 1, 1991. An Office of EE has been established at EPA headquarters. 10 full-time EPA employees are authorized and hopefully, one EE person for each EPA region will be established.

Environmental Protection Agency: EPA has two EE task forces: the EE Task Force and the Pollution Prevention EE Task Force.

The EE Task Force was created in 1988 and has written a report on EE initiatives, barriers and needs within EPA. An inventory of the regions and the existing EE curricula and materials has been taken. The Task force has developed a strategic plan for both student and adult EE and are investigating creative, ongoing means of funding EE. The Task Force recently co-sponsored a forum with the National Governor's Association where youth and educators came together. (Please note: Minnesota participated in the forum. John Miller, MDE, several students and teachers attended.)

The Pollution Prevention EE Task Force was developed with a grant from the Pollution Prevention Office. Representatives from each region are developing state-of-the-art pollution prevention materials for teachers. An inventory of existing materials and marketing research is being conducted.

Janice Batcheller: National Alliance for Environmental Education (NAEE)

NAEE, in partnership with EPA, is establishing a network of environmental education centers across the United States. Centers are designed to educate children through adults in all walks of life. Most centers are at colleges, universities or are programs or projects associated with a post-secondary institution."

Minnesota has four NAEE centers at: the U of M, Morris; Moorhead State University; Worthington Community College, and Opportunities in Science, Inc., associated with Bemidji State and Hamline Universities. All centers are at institutions that can provide expanded EE through workshops, lectures, newsletters and cooperative programs. Other services offered are technical assistance, information and training, resources, information for schools and the community. NAEE distributes a bi-monthly newsletter showcasing programs and regional news.

The goal of NAEE is to have 100 centers established by 1991. Benefits of joining the Alliance are that all centers are connected, through ECONET computer databases, to each other, government agencies, public interest organizations and large businesses. Centers have access to EE resource materials, speakers and programs throughout the United States.

ECONET network can be utilized immediately. No special computer is needed. It offers electronic mail, lists of conferences and can help eliminate duplicity.

John Miller: North American Association for Environmental Educators (NAAEE)

The Conservation Education Association has joined NAAEE making the group the largest national group of environmental educators. The 1991 conference will be held in St. Paul from September 26 to October 2. You will all receive the first 1991 conference notice and a call for papers and presenters. I hope that you will respond by being a presenter of programs, education techniques, research and etc.

If you can't be a presenter, please plan to attend and encourage others. This is a tremendous opportunity for Minnesota educators to learn. The Association's conferences focus on educating the educators.

The Midwest Environmental Education Consortium of Iowa, Illinois, Wisconsin and Minnesota which usually meets in the fall are combining efforts with NAAEE and cosponsoring this conference.

IDENTIFYING NEEDS, ESTABLISHING PRIORITIES AND GOALS

The 1990 EE Act calls for a biennial conference of environmental educators to identify EE needs and establish priorities and goals. To accomplish the requirement, the following working groups were established:

- Elementary
- Secondary
- Post-Secondary
- Community (Informal)
- Nature Centers/Environmental Learning Centers
- Local Government
- State and Federal Government

From 30 to 40 participants were in each group -- except for the Nature Center-type (Naturalists) group which numbered nearly 75. The groups identified five priorities from their listing of needs, developed goal statements and identified objectives to meet the goal.

The five priorities of each group are listed in the following chart. Common priorities emerged and were categorized generically by the Office of Environmental Education.

The second chart shows the variations between groups within the generic categories.

The goals and objectives for each priority as well as the complete listing of needs are in the Appendix.

Regional Representatives

Each working group selected a person from each region to represent the group in the region. (e.g., elementary educators designated a representative for ECSU Regions 1 and 2 and 3, etc.) A listing, by Region, of representatives is in the Appendix.

Regional representatives are the communication links to the Office of Environmental Education. They will:

- Review draft products of the OEE.
- Receive notification and minutes of Advisory Board meetings.
- Assist OEE with communications, finding task force members, etc.

ENVIRONMENTAL EDUCATOR PRIORITIES

ELEMENTARY	SECONDARY
1) Financing for teacher EE curriculum planning. 2) State teacher competency requirement. 3) Regional resource clearinghouse. 4) Regional information sharing fairs. 5) Readily accessible outdoor EE sites.	1) Regional networking/resource centers. 2) Developmental and action-based curriculum. 3) Broad awareness of EE goals among school administrators, legislators, community. 4) EE in-service teacher training. 5) Time/funds to develop and implement curriculum.
POST-SECONDARY	**NATURE/RESIDENTIAL CENTERS**
1) Pre-service teacher preparation. 2) Post-secondary EE for all students. 3) Information on current status of EE in formal system. 4) Environmental literacy of K-12 educators. 5) Post-secondary institutions as environmental models.	1) Public/private partnerships and coordination. 2) Public funds for K-12 use of EECs. 3) Renovation/construction funds. 4) EEC representation on Advisory Board. 5) Communication/regional resources system.
NON-GOVERNMENT INFORMAL (COMMUNITY)	**LOCAL GOVERNMENT**
1) Networks. 2) Bottom-up program creation. 3) Clearinghouse. 4) Integrated informal EE. 5) Reinforce think globally, act locally.	1) Regional resource centers. 2) Adult community EE. 3) Local coordination. 4) Advertising/marketing rural outreach. 5) Informal/formal link.
STATE & FEDERAL GOVERNMENT	
1) Inter/intra agency coordination. 2) Advisory Board/agency relationship process. 3) Agency support of EE. 4) EE coalition development. 5) EE clearinghouse.	

COMMON PRIORITIES

- **FUNDING - ADEQUATE, STABLE.**
- **UPGRADING EXISTING SYSTEMS AND EE PROGRAMS.**
- **ACCESS TO EE INFORMATION, MATERIALS, RESOURCES, AND PROGRAMS.**
- **COORDINATION BETWEEN FORMAL/INFORMAL, INDOOR/OUTDOOR LEARNING, GOVERNMENT/ NON-GOVERNMENT.**
- **RESOURCE CENTERS.**
- **TEACHER PREPARATION (FORMAL EDUCATORS).**

COMMON PRIORITY NEEDS OF ENVIRONMENTAL EDUCATORS

Common Priority Needs	Elementary	Secondary	Post-Secondary	EECs	Community Informal	Local Government	State/ Federal Government
Funding	-Teacher curriculum planning, development, implementation	-Teacher curriculum planning, development, implementation	-K-12 educator literacy -pre-service -in-service	-K-12 use of EECs -Renovation/ construction		-Resource centers -Advertising/ marketing/rural outreach	-Agency EE budgets
Upgrade existing systems	-Require teacher EE competency -EE curriculum integration -Accessible outdoor sites	-EE in-service -EE curriculum development -Broad, community awareness of EE goals	-Pre-service EE preparation -EE for all post-secondary -EE in-service -Institutions as env. models	-Public/private partnerships -Rep. on Advisory Board -K-12 use -Renovation/ construction	-Integrated informal EE -Global/local issues	-Adult community EE -Informal/formal link	-Inter/intra agency coordination -Agency EE support
Access to information, materials, resources	-RRC -Regional EE fairs -Accessible outdoor sites	-Regional networking/RRC	-Current EE status in formal system	-Communicating -RRC	-Networks -Clearinghouse	-RRC -Advertising/ marketing rural outreach	-Clearinghouse -EE Coalition
Coordination	-RRC -Outdoor sites	-Networking/RRC -Developmental/ action-based curriculum	-Multi disciplinary curricula	-Public/private partners -K-12 use -RRC	-Networks -Bottom-up program -Integrated informal EE -Global/local issues	-RRC -Local coordination -Informal/formal link	-Inter/intra agency -Advisory Board/Agency -EE coalition -Clearinghouse
Resource centers	Need	Need		Need	Need	Need	Need

RRC - Regional Resource Center
EEC - Environmental Education Centers (Nature Centers/Residential Learning Centers, etc.)
EE - Environmental Education

REGIONAL PERSPECTIVES
SUMMARY

The Conference culminated in regional group sessions to discuss regional priorities, implementation of objectives, networking, and organizing. The EE Act designates the Education Cooperative Service Units (ECSU) as the regional entity for in-servicing K-12 teachers in environmental education. To be consistent, the ECSU regions were used to establish statewide, geographical, regional groupings of environmental educators.

Each type of educator group chose a representative from each of the 10 ECSU regions. Approximately 60 persons agreed to be a regional representative. They will provide a liaison/link between the state, the region, and each other. Regional representatives are listed in the Appendix.

Regional Responses Which Can Be Applied Statewide are:

* The commonality of goals from workgroups is astounding and will help coordination and organization at regional level.
* Convenience is key to use of EE resources and centers.
* Create communication by attending education district meetings. Encourage using Title Funds for teacher in-service and student EE experiences.
* Camps are prevalent in the north and should be used for EE.
* Regional meetings should be held ASAP.
* Potential funders of EE should be present at next conference.

Summary of Regional Priorities:

* Most regions selected regional networking as a high priority, achievable objective.
* Some chose coordination and set a regional meeting date (regions 7 and 4).
* Developing coordinated programs with EECs was favorably mentioned often and thought to be achievable.
* Developing information about existing regional environmental education was a very high priority in southern Minnesota. (Regions 6,8,9,10 met together.)
* Developing list of EE contacts in each K-12 building in region 5 is achievable.
* For Region 4, teacher in-servicing is highest priority.

* Metro Region Priorities:

  * Network: Survey/calendar/newsletter.
  * Educate school and agency decision-makers on EE.
  * Agencies and schools serve as role models.
  * Multi-media EE promotion for public and others.
  * Allow participation in development of EE curricula.
  * Each school and agency have EE plan, coordinator and accountability.
  * Regional centers including rural and urban.

"As representatives of southern Minnesota, we want to convey our support of the needs, goals, and objectives developed at this conference. As a group, we feel that:

1. **networking,**
2. **integrated EE in all curriculum,**
3. **training teachers,**
4. **becoming more action oriented on an individual basis -- including integrating families within the EE process,**
5. **identifying all existing EE resources, as well as**
6. **determining EE resource needs**

will help us all to make environmental education happen! Thank you."

APPENDICES

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F. OEE Staff/Contacts

G. Environmental Education Advisory Board Members

ELEMENTARY ENVIRONMENTAL EDUCATORS

PRIORITIES, GOALS, and OBJECTIVES

To establish comprehensive, ongoing EE programs at the elementary level, educators assessed needs, selected priorities, developed goal statements and identified achievable objectives to reach the goal:

PRIORITIES:

1.Financial support of teacher EE curriculum planning.
2.State teacher competency requirement.
3.Regional resource clearinghouse.
4.Regional information sharing fairs.
5.Readily accessible outdoor EE sites.

1) FINANCIAL SUPPORT OF TEACHER EE CURRICULUM PLANNING.

GOAL: Ongoing financial compensation for teacher planning time to integrate the state's EE model learner outcomes into the school district's curriculum in order to develop a comprehensive interdisciplinary EE program.

OBJECTIVES:

1. EE committees established representing teachers in each district.
2. Financial support of 80 hours/year for each committee member to develop and implement the EE program.

2) STATE TEACHER COMPETENCY REQUIREMENT.

GOAL: All educators will be required to have EE competency through college courses and/or ongoing in-service workshops.

OBJECTIVES:

1. Graduate teachers competent in EE.
2. Offer continued support and education to educators presently in the field.
3. Develop and maintain awareness of current research, future trends, and careers in EE.
4. Develop positive relationships (collaboration) with local, state, national, and international corporation and businesses.

3) REGIONAL RESOURCE CLEARINGHOUSE.

GOAL: Establish statewide coordination of environmental resources (materials, activities, resources, facilities) with responsibilities which include setting-up regional clearinghouses of EE resources and delivery systems, insuring access to all regions for all resources, establishing a statewide communications system regarding resources.

OBJECTIVES:

1. Develop computerized list of resources.
2. Provide regional workshops to present materials.
3. Provide statewide EE fair.
4. Include an EE column in ECSU or Update newsletter.
5. Set-up a nationwide calendar of events.
6. Use networking through regional representatives.

4) REGIONAL INFORMATION SHARING FAIRS.

GOAL: Hold 2 or 3 day regional EE fairs. At least one day attendance with compensation will be allowed by the districts for interested educators. The fair would include exhibits, mini-sessions, materials, and teaching ideas would be presented. No presenters will be barred for lack of monetary resources.

OBJECTIVES:

1. The Department of Education will initiate the first annual EE regional fair(s) starting in the fall of 1991.
2. There will be a minimum of 4 regional fairs held annually throughout the state.

5) OUTDOOR SITES: READILY ACCESSIBLE AND OPPORTUNITY TO USE.

GOAL: Provide each student with EE opportunities, resources, and sites which emphasize local, regional, and statewide biocultural diversity and environmental concerns.

OBJECTIVES:

1. Identify, adequately staff, and equip physical facilities for EE in all areas of the state which reflect region/biocultural needs/issues relevant/crucial to the area to insure continuing educational opportunities for school-age children and adults. Such centers would be educational outreach sites for local and regional groups/agencies/departments with concerns/responsibility for area - specific for air, water, etc.
2. Geological and historical information could be addressed at such sites. Conversely, historical sites, such as Pipestone, Forest History Center/Grand Rapids, Fur Trading Post, etc., could include environmental information.

ELEMENTARY ENVIRONMENTAL EDUCATION NEEDS

OVERVIEW OF NEEDS:

- Planning
- Curriculum
- Resource Systems
- Funding
- Process
- Future Issues

PLANNING:
- integrated, interdisciplinary, with scope/sequence/continuity determined.
- outcomes clearly defined, realistic goals, and simple evaluation methods.

CURRICULUM:
- uses existing programs (Project WILD/PLT).
- is fun/active/hands-on/real-life/inexpensive.
- integrates classroom and non-school sites.
- includes environmental ethics.

RESOURCE SYSTEMS:

"Inside" Resources:
- a resource place with books and existing EE curricula and to method access other sources.
- "hands-on" materials and activities.
- audio-visual and other equipment.
- administrative support which includes providing time, resource people, etc.

"Outside" Resources:
- EE clearinghouse and formal/informal networking at regional and state level.
- regional level outdoor learning centers.
- close, local outdoor site.
- community/parent support for programs.
- agency or board to verify information.
- statewide calendar of events.
- free, annual state environmental fair of materials, displays, in-services, etc. (held in July).
- statewide EE newsletter.
- recognition/awards program.
- model program sites.

FUNDING:
- staff training and release time.
- program planning and development.
- field trips.
- existing, ongoing programs.

PROCESS:
- continuous planning.
- ongoing program.
- updated clearinghouse materials and programs.
- appropriate in-service options for new teachers.
- in-service for new environmental programs and second-level/problem workshops.

FUTURE ISSUES:

- requiring all the textbooks to be environmentally accurate.
- establishing a longer school day and year.

SECONDARY ENVIRONMENTAL EDUCATORS

PRIORITIES, GOALS, and OBJECTIVES

To establish comprehensive, ongoing EE programs at the secondary level, educators assessed needs, selected priorities, developed goal statements and identified achievable objectives to reach the goal:

PRIORITIES:

- **Regional networking/resource centers.**
- **Broad awareness of EE goals among school administrators, legislators community.**
- **EE in-service teacher training.**
- **Developmental and action-based curriculum.**
- **Time and funds for curriculum development and implementation.**

1) NETWORKING SYSTEM FOR EE RESOURCES.

GOAL: Establish an inter-regional EE Networking System.

OBJECTIVES:

1. By fall 1991, establish one resource center per ECSU region which teachers can contribute to, as well as utilize EE resources.
2. ECSU regions will set-up and implement regional EE curriculum workshops to share existing EE resources.
3. The individual school districts will encourage interdisciplinary workshop time for EE brainstorming.

2) DEVELOPMENTAL AND ACTION-BASED CURRICULUM THAT IS INTERDISCIPLINARY, USES PROBLEM SOLVING SKILLS, DEVELOPS CITIZENSHIP SKILLS, AND PROVIDES SKILLS FOR FUTURE ACTION.

GOAL: Establish an action-based curriculum based on appropriate content and student skills (as per section 9 of the Act).

OBJECTIVES:

1. Individual involvement (hands-on).
   - define teacher responsibilities per discipline.
   - provide curriculum activities that are appropriate for different subjects and grade levels.
2. Create a liaison with the community.
3. Solving environmental issues that are related to the community/region and state.
4. Set school goals for establishing school-wide programs.
5. Provide for an EE curriculum director in each district.

3) INVOLVEMENT AND AWARENESS OF SCHOOL DISTRICTS, LEGISLATORS, AND COMMUNITY TO ACHIEVE EE GOALS.

GOAL: Seek awareness, commitment, and meaningful involvement of school district decision-makers and the community to achieve EE goals.

OBJECTIVES:

1. Develop a marketing plan and educational material directed at school decision-makers.
   A) A media piece highlighting the provisions of the Act.
   B) A media piece illustrating ways of successfully implementing the Act.
2. Create community awareness by involving the students and community members in problem solving projects (publicize positive EE action through the media).

4) IN-SERVICE TRAINING FOR CURRICULUM DEVELOPMENT AND IMPLEMENTATION.

GOAL: Provide in-service training for curriculum development and implementation.

OBJECTIVES:

1. Identify people that can help train the teachers - especially in cross-disciplinary curriculum.
2. Identify key teachers willing to be trained in cross-disciplinary curriculum, who will then train peers.
3. Establish regional workshops to train core group of teachers.
4. Incorporate into the scope and sequence of each course at the secondary level.
5. Have in place at least 2 in-service workshops for teachers at each level after the establishment of scope and sequence for EE within 2 years.

5) TIME AND SUPPORT FOR CURRICULUM DEVELOPMENT AND IMPLEMENTATION.

GOAL: The EE Act should provide the means for time and support to accomplish curriculum development and implementation.

OBJECTIVES:

1. Provide for EE curriculum director in each district.
2. Set-up cooperative agreements with college credit for training and development.
3. The Office of Environmental Education will lobby for an amendment to the Act to provide funding for time/support for curriculum development and implementation.

SECONDARY ENVIRONMENTAL EDUCATION
NEEDS

OVERVIEW OF NEEDS:

- Planning
- Interdisciplinary
- Curriculum
- Funding
- Training/Education
- Resources

PLANNING:
- New conceptual framework which allows interdisciplinary problem solving, freedom from rigid scope and sequence,incentives and flexibility to develop locally relative programs.
- Survey of teacher's needs, wants and expectations from other EE sources (MN Science Museum, Sierra Club, natural areas, etc.).
- Time and support for planning and implementation: release time/workshops for credit/para-professionals/curriculum writing time.
- Ongoing planning process.

INTERDISCIPLINARY PROGRAM:
- Good networking system between teachers: resources/ideas.
- Time for coordination on the curriculum level.
- Inter-school, district-wide committee to provide for interdisciplinary EE.
- Peer workshops.
- Teacher interdisciplinary resource bank - contributing and using lesson plans/units.

CURRICULUM:
- Action-based/problem solving/community involvement.
- Develops lifelong learning/involvement/action skills.
- Service learning related to environment.

FUNDING:
- Field trips and enrichment experiences.
- In-servicing teachers: substitutes/supplementary materials.
- Curriculum writing/adapting.

TRAINING/EDUCATION:
- Better understanding of Act and what is expected.
- How to approach the goals in an interdisciplinary manner.
- Ways of using natural areas that do not have interpreters.
- Teachers in each discipline become "environmental experts" in area of expertise: could serve as continuing education sources for community.

RESOURCES:
- Easy to implement materials.
- Awareness, cooperation and support of EE from administration, school board, staff, parents and legislator of EE goals, programs and benefits.
- Provide continuing education sources for community.
- Speakers from the community to address "relativity" of environmental issues.
- Valuable community resources, such as senior citizens.
- On site development of structural ELCs.
- No "exclusive" environmental education text -- free access to materials.
- School developed as model environment.
- Two-way video teleconferencing.

POST-SECONDARY

PRIORITIES, GOALS, and OBJECTIVES

To establish comprehensive, ongoing EE programs at the post-secondary level, educators assessed needs, selected priorities, developed goal statements and identified achievable objectives to reach the goal:

PRIORITIES:

- **Pre-service Education**
- **Student Body Education**
- **Status of Formal EE**
- **In-service Education**
- **Institution as Role Model**

PRE-SERVICE EDUCATION

GOAL: As a result of teacher education programs, all K-12 graduates of teacher education programs will be prepared to teach EE.

OBJECTIVES:

1. The Board of Teaching will pass a state rule requiring environmental education for Minnesota state licensure for all K-12 teachers.
2. The legislature will pass a law requiring EE for all Minnesota state teachers.

STUDENT BODY EDUCATION

GOAL: As a result of their post-secondary experiences, all students will become knowledgeable about their environment, aware of environmental problems and issues, and be able to make responsible decisions about those problems and issues.

OBJECTIVES:

1. EE should be infused throughout the post-secondary curriculum.
2. An EE special course should be required as part of each students undergraduate core curriculum.

STATUS OF FORMAL EE

GOAL: The State of Minnesota will develop a clear understanding of the current status of EE in K-12 and post-secondary institutions.

OBJECTIVES:

1. Identify existing EE programs and courses at the university level.
2. Identify those competencies and skills needed by environmental specialists for future employment.
3. Identify the existing EE curricula and programs in government and industry.
4. Identify current research regarding effectiveness of EE curricula programs.

IN-SERVICE EDUCATION

GOAL: All Minnesota K-12 educators will become literate in EE.

OBJECTIVES:

1. All K-12 educators will participate in state approved EE in-service programs.
2. Adequate funding will be provided to educate and support participation in these programs.

ENVIRONMENTAL ROLE MODELS

GOAL: All post-secondary institutions in the State of Minnesota will serve as environmental role models.

OBJECTIVES:

1. The state shall identify current practices of post-secondary institutions (such as recycling, energy efficiency, transportation, and water use).
2. The state shall provide institutions with examples of models and practices.

POST-SECONDARY ENVIRONMENTAL EDUCATION NEEDS

OVERVIEW OF NEEDS:

- Pre-service/teacher training/educational resources.
- In-service.
- Student body-wide education.
- Community responsibilities.
- Research and development.
- Institutional role-modeling.
- Environmental specialist education - government and industry.

PRE-SERVICE:

- State rule requiring offering EE to prospective teachers.
- Rule specifying prospective body of knowledge (Board of Teaching) (At what level should it be provided?).
- Implementation authority/resources for state official given these responsibilities. (including existing Elementary Rule).
- Greater infusion of EE throughout teacher education faculty courses.
- Expose students to existing curriculum materials.
- Emphasize student EE learner outcomes.

IN-SERVICE:

- Support for "Master Teachers" in EE who already are doing EE.
- Workshops (2 week minimum).
- Graduate credit courses.
- Minimum standards.
- Funding.
- Broader than educational agencies/partnerships -- government, HGO(?), business.
- Incentives to get teachers participation.
- Involvement of college/university faculty in summer.
- Science teachers in elementary schools.
- Administrative support (incentives) for teacher participation.
- Mandates re: participation.
- Criteria for in-service faculty/organizers.
- Workshop models.
- Accountability for participants (outcome based in-service programs) Which methods are best?

COMMUNITY RESPONSIBILITIES:

- Legislative recognition that community responsibility exists, who it relates to, etc.
- Resource for local and state decision-makers - government, other.
- Tapping community resources.
- Financial support for outreach.
- Faculty incentives/recognition.
- Dedicated outreach resource at the institution.
- Specialized training programs for industry.
- Use of cost effective technologies/delivery systems (film, computer, etc.).
- Better communication with community.
- Summer programs for children and families.

ALL COLLEGE STUDENTS:
- Infuse EE throughout liberal arts curriculum.
- Model for infusing.
- System-wide support/individual.
- Faculty rewards (tenure).
- Dealing with "academic freedom" concerns.
- Financing.
- Issue of required courses.
- Proficiency major demonstration in students.
- Resources.
- Greater interdisciplinary-multi-faculty contact.
- Goal developing - environmental and ethic.
- Transfer students.
- Additional courses.
- Curriculum resources.
- HECB role?
- Faculty exchanges - between departments.

RESEARCH and DEVELOPMENT:
- Better connection of 1) research to education 2) research to problems.
- Coordination of research (avoid unnecessary duplication).
- Research applicable to Minnesota.
- Greater accessibility of research.
- Research on outcomes of various EE methods, programs (evaluation research).
- Multidisciplinary teams for research on local/state environmental problems (Governor's Design Team as one example).
- More networking among researchers, between environmental administrators and environmental educators.
- Better dissemination of research on attitude - behavior relationships.
- More risk assessment research.

INSTITUTIONAL "ROLE MODELING"
- Surveying of current institutional environmental practices/environmental audits.
- Funds for implementing desired changes.
- Identify resource people/institutions within and outside Minnesota.
- Involve student organizations.
- Involve physical plant personnel.
- Dissemination of cost information.
- Disseminate existing institutional models.
- Class projects looking at the institution as the subject.
- Overcoming administrative resistance.
- Dissemination to users.
- Projects focused on implementing environmental change at the institution.
- Cooperation with outside agencies, companies - recycling costs.
- Focus on individual behavior related to the institutional context.
- "Star demonstration projects".

EDUCATION OF ENVIRONMENTAL SPECIALISTS FOR GOVERNMENT AND INDUSTRY:
- Identify the competencies needed, disciplines, courses.
- General need for all science education.
- Identify existing programs, number of students generated.
- Need for generalists, role of generalists, competencies of generalists.
- Internships for generalists.
- Identification of the specific specialties educating for environmental law careers environmental resource management programs.
- Other?

NATURE/RESIDENTIAL CENTERS
(ENVIRONMENTAL EDUCATION CENTERS)

PRIORITIES, GOALS and OBJECTIVES

To establish comprehensive, ongoing EE programs at the nature/residential centers, educators assessed needs, selected priorities, developed goal statements and identified achievable objectives to reach the goal:

PRIORITIES:

- **Public/private partnerships and coordination**
- **Renovation/construction funds**
- **Communication system**
- **Public funds for K-12 use of EECs**
- **EEC representation on Advisory Board**

1) TO DEVELOP PUBLIC/PRIVATE PARTNERSHIPS THAT FACILITATE COORDINATION OF EE EFFORTS.

GOAL: To integrate EECs with community resources and with school/adult/family education to achieve the Environmental Learner Outcomes.

OBJECTIVES:

1. That state Department of Education provide the Environmental Learner Outcomes to all EECs.
2. That EEC will integrate these ELOs into their existing programs/curricula.
3. Identify pilot school (minimum of one per region) to jointly coordinate curricula with a local EEC.
4. That EECs, in cooperation with other agencies (e.g. community education, extension, etc.) provide adult and family EE.
5. That EECs involve private and public funding sources/resources in matters of this growth and development.

2) PUBLIC MONEY IS NEEDED TO SUPPORT K-12 USE OF EECs.

GOAL: To allow Minnesota children to have access to EECs through line item in local school system budget.

OBJECTIVES:

1. Department of Education mandates/directs school districts to make transportation and user fees to EECs line item in school budgets.

3) FUNDING FOR RENOVATION AND CONSTRUCTION OF EECs TO IMPLEMENT THE EE ACT.

GOAL: To receive adequate funding to:
- ensure operation of ongoing programs,
- meet future program needs,
- reduce geographic disparities in the availability of Minnesota EE programs.

OBJECTIVES:
1. $10.5 million in next biennium for upgrade of existing facilities.
2. $20 million in next biennium for new facility needs (minimum).

4) EECs NEED TO BE REPRESENTED ON EE ADVISORY BOARD.

GOAL: Include EEC representatives on EE Advisory Board

OBJECTIVES:

1. Modify provisions of the Act to require State Planning Agency to add two (2) EEC representatives to EE Advisory Board.
2. Establish procedure to account in writing for EE Advisory Board activities at biennial statewide EE Conference.

5) EECs NEED FORMAL COMMUNICATION LINKS BETWEEN EACH OTHER, OTHER AGENCIES, INSTITUTIONS, AND RESOURCE INFORMATION SOURCES.

GOAL: To develop a communication system that will coordinate schools, EECs, agencies, and special interest groups in finding and utilizing appropriate information, curriculum, research, and support within the region and will provide avenues to other local, state, national, and international networks.

OBJECTIVES:

1. Within each ECSU Region, identify/establish/determine a location/site as a regional environmental resource center to coordinate information access and conduct annual/periodic information sharing fairs.
2. State matching funds for acquisition of fax/computer equipment to link EECs with each other and schools.
3. Publish a quarterly newsletter.
4. Identify existing networks which can be utilized.
5. Establish an 800 number as an access point for EECs, schools, agencies, and public EE resources.

ENVIRONMENTAL LEARNING CENTERS/NATURE CENTERS
(ENVIRONMENTAL EDUCATION CENTERS)
NEEDS

OVERVIEW OF NEEDS:

- Recognition of EEC Role
- State Program
- EEC Program
- Coordination
- Access to Information
- Access to EECs
- Funding
- Curriculum

RECOGNITION OF EEC ROLE:

- As integral part of state's environmental education system.
- Act modified to add two EEC representatives to Advisory Board.
- State commitment to private centers as conduits for accomplishing goals.
- Understanding roles of various types of EECs in Minnesota in EE.

STATE PROGRAMS:

Minnesota Department of Education:

- MDE assistance with Environmental Learner Outcome (ELO) based education.
- Link formal school scope and sequence with informal at EE regional resource centers.
- Mandate for overnight EE visits every year - 4th through 12.
- Industry standards for all EE program centers.
- Standards for development/evaluation of programs.
- Accreditation system for all day/residential EE programs and facilities.

State Planning Agency:

- Information on agency funding opportunities.
- EE relative to urban density.
- Knowledge about constituents needs -- including special populations.
- Mechanisms for involving or educating citizens. Program goals are addressed to citizens, programs are aimed at students.

EEC PROGRAM:

- Integration of ELOs into existing programs/curricula.
- Establish pilot school(s) in each region to coordinate curricula with EECs.
- Provide bilingual EE (Minneapolis - high % of special population, many non-English speaking).
- Greater emphasis on school on-site EE -- sending naturalists to schools.
- Getting teachers out to EEC site
- Helping secondary level EE to get to EEC site.
- Communicating with public about resources -- people, natural.
- Integration with other agencies for social, economic, cultural perspectives.

CURRICULUM:

- Model Projects - currently functioning. Use to match programs with ELOs.
- New model products that include environmental problem solving situations.
- Teacher guides for all existing public natural resource areas.
- Broader range of science and technology in EE facility curriculum.
- Use of existing curriculum.
- Residential ELC visit part of a broader curriculum project at schools that takes place before and after visit.
- Expand naturalist curriculum to "unnatural" areas, e.g., landfills (goal: cause/effect behavior learning).

COORDINATION:

- Partnership between community nature centers and school districts, community education, business, etc. to implement EE goals.
- Cooperation with other agencies (community education, extension, etc.) to provide adult and family education.
- Public/private partnerships that facilitate coordination of EE efforts.
- Within each ECSU region identify/establish/determine a location/site as a Regional Resource Center to coordinate information access and conduct annual/periodic information sharing fairs/center.
- Link formal education scope and sequence with informal EE at resource centers.
- Develop Minnesota ECONET.

ACCESS TO INFORMATION:

- Clearinghouse for EE materials.
- Identify existing networks which can be accessed immediately: research, schools, national, global, agencies, other centers, regional networking, information/curriculum.
- An 800 number - as an access point for EECs, schools, agencies and public to EE resources.
- Fax/computer link for EECs.
- A quarterly newsletter.
- Easy access to recycling information.
- Pool of special equipment to check out, e.g., night vision scope.
- Rental sources for technical media packages, e.g., groundwater film.
- Professional exhibit shop (for hire).

ACCESS TO EECs:

- Transportation of schools/community to EECs facilities and programs.
- Evening hours for nature centers - Geographic distribution of EECs.

FUNDING:

- Private and public funding sources/resources to EEC program growth and development.
- MDE mandates/directs school districts to make transportation user fee to EECs a line item in school budgets.
- State matching funds for acquisition of fax/computer equipment to link EECs.
- Construction/renovation of EEC facilities that offer hands-on EE:
  Construction: Minimum of $20 million in next biennium.
  Renovation: $10.5 million for existing facility upgrade.
- Ability for schools to raise funds to participate in EE.
- EECs have buses to transport. users - EECs adapted for disabled users.
- Scholarships for students who can't afford residential ELC.
- Equitable, geographic distribution of EECs to decrease transportation costs.
- School state aid formula changed to include off-site learning.
- 20% of Environmental Trust Fund for EE Staffing:
  - State park naturalists - for more public education.
  - More full time naturalists at nature centers.
  - To develop and implement Quality programs.
  - EE staff on park and recreation boards, school districts.
  - Trainers of staff to enable providing teacher in-service.
  - In-service staff on special populations, cultural differences, disabilities.
  - In-service staff on technical environmental situations: groundwater, global warming, etc.
  - Marketing specialists.
  - Teacher/naturalist/EE educator at school.

NON-GOVERNMENT INFORMAL
(COMMUNITY)

PRIORITIES, GOALS, and OBJECTIVES

To establish comprehensive, ongoing EE programs by the non-government, informal community, educators assessed needs, selected priorities, developed goal statements and identified achievable objectives to reach the goal:

PRIORITIES:

- Networks
- Clearinghouse
- Re-enforce "think globally, act locally"
- Bottom-up program creation
- Integrated informal EE

1) NETWORKS.

GOAL: Develop a network process between providers that maximizes cooperation and minimizes duplication.

OBJECTIVES:

1. Community calendar/newsletter.
2. Semi-annual conference in region for all educators.
3. State share fair that rotates to different regions.
4. Informal educators group.

2) BOTTOM-UP PROGRAM CREATION.

GOAL: Establish a decentralized decision-making structure while providing statewide coordination and support via SPA.

OBJECTIVES:

1. Require Advisory Board to establish regional participation methods, such as assemblies, structured use of volunteers, town meetings.

3) CLEARINGHOUSE.

GOAL: Develop a statewide clearinghouse that addresses needs of a broad range of audiences and a wide range of accurate, reliable resources.

OBJECTIVES:

1. Establish location, funding sources, oversight, and participation mechanism.
2. Consider Earth Day Committee and commitment.
3. Develop a wide range of resources including: visual aids, hotline, speakers, computer materials, bibliographies, curricula, hands-on activities, and displays.
4. Develop a research base to insure accuracy of information.

4) RESOURCE CENTERS.

GOAL: Set criteria for Resource Centers to insure that informal education is well integrated.

OBJECTIVES:

1. Set-up regional map based on population distributions before determining geographical distribution of RRCs.
2. Set-up ways to insure accountability between RRCs and population it represents.

5) RE-ENFORCE THINKING GLOBALLY, ACTING LOCALLY.

GOAL: Local action should reflect global responsibility.

OBJECTIVES:

1. Regional Resource Centers should prioritize which global issues are of local concern.
2. Establish and operate a mobile education unit (like bookmobile).

NON-GOVERNMENTAL INFORMAL EDUCATORS
(COMMUNITY EDUCATORS)
NEEDS

STATE PROGRAM:

- Role of informal unclear in Act - need clarification.
- More emphasis on community, families, citizenship.
- Research best type of regional break-down for all EE.
- "Centers" could also be activities, not just facilities.
- Clarification of regional advisory committee role.
- Integrate grassroots participation in statewide program.
- Clarification of roles and responsibilities of RRCs.
- Aggressive SPA in planning.
- Decentralize Advisory Board and decision-making.

COMMUNITY PROGRAM:

- Define specific components of environment better and prioritize environmental issues.
- Bottom-up program creation.
- Reinforce think globally, act locally.
- Process for distribution of EE.
- Quality curriculum materials.

COORDINATION:

- Network between providers - more cooperation/less competition.
- Public/private partnerships.
- Link research base to EE practice.
- Criteria for selecting and implementing Regional Resource Centers should be flexible, include diverse range of organizations and emphasize accessibility.
- Interaction between material, physical, social science - interdisciplinary.
- With unions, labor education, youth, agriculture, OWM, MN Extension, ECOL, Non-game, MN Waterfowl, Nature Conservancy, Community Education.
- Informal educators organization.
- Regional participation through assemblies, structured use of volunteers, town meetings.

MARKETING:

- Reach adult audience via organizations, targeting.
- EE promotion through competitive grant process.

ACCESS TO INFORMATION:

- Clearinghouse information should be verified and include hot line; visual aids; accurate, reliable, consistent materials; inventory of regional resources; computer materials/databases; biblios; curricula; hand-on activities; displays.
- Quality curriculum material targeted to specific audiences.
- Mobile education unit.
- Geographic distribution.
- State share fair which rotates to all regions.

PLANNING:

- Needs assessment of community.
- Assessment of existing resources.
- Methods for citizen participation in all phases of planning.

LOCAL GOVERNMENT

PRIORITIES, GOALS, and OBJECTIVES

To establish comprehensive, ongoing EE programs at the local government level, educators assessed needs, selected priorities, developed goal statements and identified achievable objectives to reach the goal:

PRIORITIES:

- **Regional Resource Centers**
- **Local Coordination**
- **Informal/Formal Link**
- **Adult/Community Curricula***
- **Advertising/Marketing**
- **Rural Outreach**

GOAL: Establish and fund regional resource centers at, or in association with existing ECSU office locations.

OBJECTIVES:

1. Review ECSU locations for practicality of use as RRCs.
2. Establish additional RRCs where needed.
3. Provide for local input, on a regular basis, in a review process for establishment of RRCs.
4. Staff RRCs.

GOAL: Establish an integrated EE curriculum for variable audiences outside the traditional K-12 and post-secondary systems.

OBJECTIVES:

1. Identify audience in greatest need of curricula.
2. Identify any existing curricula.
3. Modify curricula to reflect contemporary local needs and allow input.
4. Distribute curricula to local EE providers.
5. Train local EE providers on the use of the curricula.

GOAL: Establish regularly scheduled regional EE group meetings for the purpose of coordination of all local efforts.

OBJECTIVES:

1. Identify regional individuals responsible for coordination locally, use advisory committee as a start.
2. Establish regular meeting schedule. Regional group to set schedule. Quarterly meeting is suggested.
3. First meeting to be convened within the first quarter of 1991.

*Note: There was much discussion on the use of the word "curricula" since it has a traditional educational meaning. Curricula was used to reflect an integrated informational approach with definite intended outcomes.

GOAL: Establish a professional statewide EE advertising/marketing campaign with inclusion for timely updates (multi-media).

OBJECTIVES:

1. Office of EE to select appropriate marketing professional.
2. Develop content to improve awareness of EE.
   Examples:
   a) provide information on RRCs, where they are, what information available
   b) identify who EE providers are c) create a demand/interest in EE
3. Coordinate with other public service advertising campaigns.
4. Multi-media effort to be developed to reach all population segments (e.g, rural).
5. Use past EE success as examples to showcase in advertising.

GOAL: Establish regularly scheduled meetings between educators and resource managers.

OBJECTIVES:

1. Identify individuals responsible for EE, educators and resource managers.
2. Establish regularly scheduled meetings.
3. First meeting to be convened in first quarter of 1991.

LOCAL GOVERNMENT
NEEDS

OVERVIEW OF NEEDS:

- Programs
- Coordination/Communication
- Marketing
- Access to Information

PROGRAMS:

- Adult education.
- Integrated adult curriculum - including using recycleables as natural resource.

FUNDING:

- Initiatives from state should have funding to implement.

COORDINATION/COMMUNICATION:

- Link between agencies: networking to avoid duplication.
- What is happening? - coordinate activities in locality, - combine efforts to make best use of funds, etc.
- What is being taught? - What materials needed?
- "Bridge" between government and formal education.
- Need to link resources at state/regional level.
- Administering programs: local level can sometimes be funded more easily than at state level.
- Annual meeting to coordinate local efforts.
- Resource managers meet with EE personnel.
- Informal/formal link.

MARKETING:

- Advertising beyond schools, community, etc., . . .outreach to rural.
- Understanding the groups in local area and how to reach them - specifics and those not in specifics.
- Coordinate advertising with other public service campaigns.

ACCESS TO INFORMATION:

- Accessibility of information from state to local government units.
- Lack of information to inner-city -- link between formal and informal education.
- In rural counties - difficult to reach adult population - methods to reach "Media Hole".
- Need regional presence - now (e.g., one regional resource center per RCD region?).

GOVERNMENT/STATE & FEDERAL

PRIORITIES, GOALS, and OBJECTIVES

To establish comprehensive, ongoing EE programs at the government/state and federal level, educators assessed needs, selected priorities, developed goal statements and identified achievable objectives to reach the goal:

PRIORITIES:

- Inter/intra agency coordination
- Agency Support of EE
- EE coalition development
- Advisory Board/agency relationship process
- EE clearinghouse/library

INTER/INTRA AGENCY EE COORDINATION.

GOAL: As per the Office of Environmental Education guidelines, each agency will have an EE plan and a designated EE coordinator (to serve as an OEE liaison).

OBJECTIVES:

1. Designated agency/organization representatives to serve as EE liaisons by 1-1-91.
2. Development of workgroup to develop plan/implementation schedule.
3. EE coordinators to interact with other EE coordinators and OEE.
4. Development of inter/intra communicators of EE activities (i.e. bi-weekly, OEE n e w s l e t t e r , communication of agency plans).

EE ADVISORY BOARD'S REPRESENTATION, ORGANIZATION AND ROLE OF AGENCIES.

GOAL: Agency members of the Advisory Board are accountable, have an appropriate level of authority and knowledge and truly represent all of the EE roles of their agencies.

OBJECTIVES:

1. Ensure that agencies not currently represented on EE Advisory Board will be adequately represented on committee and task forces.
2. Develop criteria and performance indicators for agency representatives to EE Advisory Board, committees, and EE coordinators.
3. The Advisory Board representative should be easily accessible to internal EE providers.

AGENCY SUPPORT OF EE.

GOAL: Agencies will support and be accountable for EE activities.

OBJECTIVES:

1. The strategic plan for each agency with an EE function will acknowledge EE as a priority.
2. Appropriate responsibilities will be included in administrator's job descriptions.
3. Accomplishments will be documented and reported in an annual report and program plan for EE and available to OEE and other agencies.
4. Each agency will develop a monitoring, evaluation, and review of the EE workplan and overall plan.

OBJECTIVES:

1. Develop an EE coalition for: a) legislative relations, b) public and private funding partnerships, and c) other marketing activities to building public support.
2. Each agency shall budget EE activities in accordance with their EE plan.

EE MATERIAL CLEARINGHOUSE/LIBRARY.

GOAL: Establish an easily accessible central EE clearinghouse with regional accessibility (modeled after existing clearinghouses, such as the Waste Education Coalition's).

OBJECTIVES:

1. Establish an easily accessible central EE clearinghouse with regional accessibility (modeled after existing clearinghouses, such as ERIC and the Waste Education Coalition's).

   - Link into existing EE clearinghouses.
   - Establish the clearinghouses and RRCs by January 1992 with adequate funding for: space, staff, materials, equipment.

STATE AND FEDERAL GOVERNMENT
NEEDS

OVERVIEW OF NEEDS:

- State Programs
- Agency Programs
- Formal/Informal Link
- Training
- Marketing
- Coordination
- Funding

STATE EE PROGRAM:

- Definition of agency's authority in implementing EE Act and description of official responsibilities.
- Relationship with Advisory Board: organization and role; agencies not on Board will be represented on committees/task forces.
- Annual report and program plan on EE.
- Education guidelines based on learning stages and child development to help develop:
  - site-special curriculum.
  - appropriate sequential curriculum.
- Dissemination (Clearinghouse?) system to ensure resources developed will get to users.
- Central resource library.
- Simple methods for constructive public participation in decisions.
- Evaluation of curriculum for effectiveness.
- OEE plan include organizational structure and framework for clearinghouse.
- Agency input on clearinghouse location decisions.
- ECOL review for EE role enhancement.

AGENCY PROGRAMS:

- Federal agency administrative/executive involvement.
- Commissioner level of accountability and support.
- Agency acknowledgement, support and accountability for EE.
- Agency staff in-service training.
- Agency formal EE plans and promotion guides.
- Specialized staff to produce exhibits, speakers, brochures.
- Open classification evaluation of education employees to admit able but currently "unqualified" applicants.
- Full time Agency EE Coordinator/Liaison.

FORMAL/INFORMAL LINKS:

- Clearly defined roles of Department of Education's relationship to other agencies; and, role of other agencies.
- 7-12 outcomes and beyond.
- What do educatees want?
- Workshops for teachers on EE administered at various sites.
- Inclusion of teachers from beginning of any curriculum planning and development at government agencies.
- Build respect with formal education agencies for work at informal education sites (Science Museum, state parks, zoos, natural areas).
- As teacher educator and supplementer - information on appropriate level of information and detail of activities for different grades.

TRAINING:

- Staff training to be aware of EE and outreach.

MARKETING:

- Environmental education lobbyists.
- Mass media campaign for EE.

COORDINATION:

- Integrated EE plan coordinated with other land and resource management agency plans.
- Interagency knowledge of agency programs, materials, plans, etc.
- Establish clearinghouse and Regional Resource Centers by 1992 with adequate funding, staff, space, materials and equipment.
- Clearinghouses and RRCs linked into existing delivery systems to ensure non-duplication of effort.
- Clearinghouse for EE monies and professional grant writers.

FUNDING:

- Stable funding.
- Interdisciplinary funding proposals that use resources from private sector.
- Agency budgeting of adequate funds for EE.

CONFERENCE EVALUATION FORM SUMMARY

Average ratings from participants

5 = Excellent, 4 = Good, 3 = Average, 2 = Fair, 1 = Poor

1.	Overall experience as a participant.	4.0
2.	Overall organizational format of the Conference, i.e., the panels, groups, and speakers.	3.8
3.	Assistance and service received from the staff.	4.1
4.	Design and outcome met expectations?	3.8
5.	Quality of first morning's presentations.	3.6
6.	Effectiveness of the reaction groups session.	3.8
7.	Post-secondary panel.	3.2
8.	Effectiveness of work group sessions.	3.9
9.	Dinner speaker.	3.5
10.	Work group sessions on goals, objectives.	4.1
11.	General session sharing priorities, goals, objectives.	3.5
12.	Regional sessions.	3.2
13.	Wrap-up session.	3.1
14.	Exhibits, exhibit area.	4.3

COMMENTS

MOST FREQUENT COMMENTS:

- Too much crammed into 2 days - exhausted in evening.
- Too little time for networking and talking (one suggested no dinner speaker at all - allow to talk).
- Would like to receive conference materials a week beforehand (or at least copy of the Act and schedule).
- Too little free time to look at exhibits.
- Dinner speaker very poor, sexist (others were entertained).
- Not on weekend (6-day workweek) Thursday-Friday or Wednesday-Thursday-Friday better.
- Don't charge organizations for exhibit space - excludes many smaller and volunteer groups.
- EE Advisory Board not present.

OTHER COMMENTS OF INTEREST:

- Some facilitators didn't know area.
- Regional session lacked guidance.
- Many of the speakers, much of the material was repetitive (i.e., Friday afternoon and Saturday morning).
- Make photocopying (and word processing) available to working groups.
- October is a bad time for nature centers (Halloween is busiest time), winter is better.
- Smaller working groups in afternoon (Friday? Saturday?) session.
- Started too early for people driving to Minneapolis from outside the metro area.
- Publish names, addresses, phone numbers, and affiliations of presenters and facilitators.
- All very good, but will Advisory Board pay attention to input? Will put into practice?
- Regional meetings important - when left at end of agenda, may have left already.
- Biennial not often enough.
- Prepare press release for local newspapers, radio, etc.
- Use overhead transparencies. In general session write ideas from working groups on them and gather for wrap-up.
- Other way of organizing regions of state (say, bio-regions according to natural features?).

CONFERENCE EXHIBITORS

STATE PLANNING AGENCY
Land Management Information Center

INTERNATIONAL WOLF CENTER

MINNESOTA ZOOLOGICAL GARDEN
Education Department

LAND STEWARDSHIP PROJECT

DEPARTMENT OF NATURAL RESOURCES
Fisheries

MINNESOTA ETHANOL COMMISSION

NORTHERN STATE POWER COMPANY
Environmental and Regulatory Activities Department

MINNESOTA STEWARDSHIP

MOTHER EARTH EDUCATION THEATER

OFFICE OF WASTE MANAGEMENT

SOIL AND WATER CONSERVATION SOCIETY

DEPARTMENT OF NATURAL RESOURCES
Trails and Waterways

WCCO TELEVISION

UNIVERSITY OF MINNESOTA
Minnesota Sea Grant

SCIENCE MUSEUM OF MINNESOTA

MINNESOTA EXTENSION SERVICE
Natural Resources Program

AMERICAN LUNG ASSOCIATION

YMCA
North Wood Resource Center

ECO EDUCATION

YMCA CAMP ST. CROIX
Environmental Learning Center

CITIZENS FOR A BETTER ENVIRONMENT

MINNESOTA EXTENSION SERVICE
Hennepin County

STATE PLANNING AGENCY
P.A.L.S.

MINNEAPOLIS PUBLIC LIBRARY
Environmental Conservation Library

The State Planning Agency and the Department of Education would like to thank the exhibitors for their displays, literature, and support for the 1990 Environmental Education Conference.

MINNESOTA'S ENVIRONMENTAL EDUCATION ACT
Minnesota Session Laws 1990, Chapter 595
Effective July 1, 1990

The Minnesota Environmental Education Act (EE Act):

- **Establishes policy of lifelong environmental learning;**
- **Establishes seven goals** for the state's environmental education program for the pupils and citizens of Minnesota;
- **Creates an Office of Environmental Education** and a Director in the State Planning Agency who is responsible for:
  - Informal environmental education programs;
  - Consistent policy and coordination between K-12, post-secondary, and informal EE programs;
  - Establishing advisory committees and a process for input;
  - Cooperating with and supporting EE programs developed by the State Board of Education and the MN Department of Education by:
    - promoting all EE programs to achieve learner goals and outcomes;
    - serving the ECSU needs at regional resource centers;
    - evaluating, promoting, and distributing materials of agencies and organizations to educators.

- Authorizes the Director to:
  - Develop a plan and continuing planning process to achieve the EE program goals;
  - Review legislative and funding requests consistent with the plan;
  - Hold a biennial EE conference;
  - Receive and allocate EE grants;
  - Establish and maintain communication methods between EE educators and consumers;
  - Provide technical assistance;
  - Provide marketing and publicity for EE programs;
  - Establish EE resource centers throughout the state as needed to provide information, programs, and liaison between regions and state.

Creates an Advisory Board whose members are the commissioners or heads of:

- Four environmental agencies -- Natural Resources, Pollution Control Agency, Agriculture, and the Board of Water and Soil Resources;
- Four education agencies -- MN Department of Education, Higher Education Coordinating Board, Board of Teaching, and the Minnesota Extension Service;
- State Planning Agency; and
- Eight citizens appointed by the governor, two of whom are current teachers.

- **For K-12 education, the Minnesota Environmental Act:**

  - Establishes an interdisciplinary, integrated, outcome based environmental education program in all public elementary and secondary schools which is implemented through the learner outcome, assessment and feedback instructional process;
  - Directs the MN Department of Education to assist schools to establish EE programs and develop policies for environmental education in-service teacher training through the ECSUs;
  - Directs the MN Department of Education to develop curriculum integrated models for a learner outcome-based environmental education program;
  - Establishes research and development sites for planning and implementing integrated EE curriculum programs;
  - Assigns responsibility for in-service teacher training to MN Department of Education;
  - Requires a biennial report on environmental education progress from MN Department of Education to the legislature.

GOALS FOR ENVIRONMENTAL EDUCATION

1. To understand ecological systems;

2. To understand the cause and effect relationship between human attitudes and behavior and the environment;

3. To be able to analyze, develop and use problem-solving skills to understand the decision-making process of individuals, institutions, and nations regarding environmental issues;

4. To be able to evaluate alternative responses to environmental issues before deciding on alternative courses of action;

5. To understand the potential complementary nature of multiple users of the environment;

6. To provide experiences to assist citizens to increase their sensitivity and stewardship for the environment;

7. To provide the information citizens need to make informed decisions about actions to take on environmental issues.

ADVISORY BOARD MEMBERS

AGENCIES:

State Planning Agency: Linda Kohl, Commissioner
Department of Natural Resources: Rodney Sando, Commissioner
Pollution Control Agency: Charles Williams, Commissioner
Board of Water and Soil Resources: Don Ogaard, Chair
Department of Agriculture: Eldon Redalen, Commissioner
Department of Education: Eugene Mammenga, Commissioner
Higher Education Coordinating Board: Dave Powers, Executive Director
Board of Teaching: Ken Peatross, Executive Secretary
Minnesota Extension: Patrick Borich

CITIZENS:

Congressional District 1: Dr. C. Edward Buchwald, Northfield
Congressional District 2: Dr. Judith Kuechle, Barrett
Congressional District 3: Barbara Moyer, Eagan
Congressional District 4: Tom Mathieu, St. Paul
Congressional District 5: Jonathon Burris, Minneapolis
Congressional District 6: Barbara Toren, Mahtomedi
Congressional District 7: Dr. Ray Nelson, Bemidji
Congressional District 8: Gary Noren, Taylors Falls

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MN Naturalists - Wood Lake Nature Ctr.
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612-470-1331
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